

# Fuel 4 Women



KSC/CCAFS HEALTH EDUCATION AND WELLNESS PROGRAM

## Chronic Dry Eye Syndrome November 2005

### WHAT IS DRY EYE SYNDROME?

Tears keep your eyes moist, lubricate the surface of the eye for eyelid closure and guard against infection. They also wash away allergens and protect the eye. Without tears, good vision is impossible. Dry eye syndrome is a group of disorders affecting the film of tears over the eye. According to a study by the Schepens Eye Research Institute and Brigham Women's Hospital, nearly 3.2 million American women and more than one million American men age 50 and older suffer from a painful and debilitating dry eye syndrome. The condition affects women two to three times more than men.

Dry eye occurs most often in the elderly. Although the cause of dry eye syndrome is unknown, it tends to occur more often in women.



When you have dry eye syndrome, either you don't produce enough tears, or you have poor quality tears and/or excessive tear evaporation. Either problem causes your eyes to sting or burn, feel scratchy, become irritated and excessively tear. It most commonly occurs in both eyes, but may affect one eye more than the other. People with dry eyes have difficulty wearing contact lenses. They also may develop stringy mucus in or around their eyes. There

can be pain and redness in the eye, a feeling of heavy eyelids, or blurred, changing or decreased vision. People with more severe cases of dry eye are often sensitive to light. Although eye infections are more common in people with dry eye syndrome, irreversible vision loss from dry eye is rare. More commonly, people with dry eye have fluctuating vision, and experience problems with tasks requiring visual concentration such as reading and driving. Most people with dry eye find the condition to be an uncomfortable nuisance, with many characteristics of a "chronic pain" type of syndrome.

The tear film on your eyes actually consists of the following three major components:

- **Lipid:** The outer layer of the tear film is covered by an oily layer produced by meibomian glands in the lower and upper eyelids. This layer smoothes the eye's surface and keeps tears from evaporating too fast, and helps them stay on the eye.
- **Aqueous:** The aqueous component is a watery layer that is produced by the lacrimal glands. This layer makes up most of what we normally consider tears. It nourishes the cornea (the clear tissue of the outer protective layer of the eye that transmits light) and the conjunctiva (a thin, clear layer of tissue that covers the white outer surface of the eye). This tear layer also cleanses the eye and washes away foreign particles or irritants that are wrapped up by the other major component - mucin.
- **Mucin:** The goblet cells of the conjunctiva, as well as the surface cells of the cornea and the conjunctiva produce this protective lubricant of tears. It helps spread the watery layer of tears across the eye to keep the eye wet and it traps and wraps up foreign pathogens and debris so they do not damage the ocular surface.

As we age, the eyes naturally produce fewer tears. However, sometimes, the lipid and mucin layers produced by the eye are of such poor quality that tears can't remain on the eye long enough to keep it lubricated. Consequently, some people with dry eye may actually have tears running down their cheeks! Dry eye syndrome, also called keratoconjunctivitis sicca or ocular sicca, is the result. Although the exact cause of the problem is unknown, the American Academy of Ophthalmology reports that growing evidence suggests dry eye might be connected to inflammation of the lacrimal gland and the surface of the eye.

## SYMPTOMS

- Discomfort in the eyes
- Itchiness
- Redness
- Excessive tearing without relief
- Feeling of presence of foreign object in the eyes
- Discomfort after periods of eye strain like watching television, reading, computer use, sewing, etc.



## DIAGNOSIS

Your eye doctor can check your eyes for clinical signs of Chronic Dry Eye. He or she also may use several quick and painless tests to measure visual clarity, tear production, eye surface dryness and damage to the cornea or conjunctiva (the membrane that covers the white part of the eye and the inside of the eyelids). The doctor will find it helpful if you describe your condition in detail.

Be sure to tell your doctor if you experience dryness, itchiness, the persistent feeling you have “something in your eye”, have difficulty reading, watching TV, or other activities associated with eye sight.

## TESTING

Testing for dry eyes can be performed through several methods. One of the simplest, Schirmer's test, is performed by placing a small piece of filter paper inside the lower part of the eyelids. The eyes are closed for a few minutes and taken out to measure the amount of tear production. Fluorescein eye drops may also be used to determine tear production. The special eye drops contain a dye that can be traced with a special light as it is washed out of the eyes by the tears. Tears may also be examined to see if they contain enough moisture, proteins, and other materials.

## TREATMENT

The mainstays of dry eye treatment are over-the-counter artificial tears in the form of eye drops. Health care professionals generally recommend you use them as often as needed to relieve symptoms. How often you use the drops can depend upon the severity of your symptoms, the dryness of your immediate environment, and humidity of the weather. Some patients with dry eye may find that on a rainy day, they need only a drop of artificial tears for the entire day. On a dry, sunny and windy day, a drop may be needed every hour.

## QUICK FACTS

- Dry eye syndrome tends to occur most often in the elderly, especially women.
- Although dry eye syndrome can affect vision, it rarely produces permanent vision loss.
- Dry eye has no cure, but can be treated.



## Chronic Dry Eye Prevention

## 1. Some solutions for keeping eyes moist

All moisture tends to evaporate when exposed to air and certain climate conditions. To preserve as much of your eyes' natural moisture as possible, the Mayo Clinics suggests that you slow evaporation with these simple precautions:

- Don't direct hair dryers, car heaters, air conditioners or fans toward your eyes.
- Wear glasses on windy days and goggles while swimming.
- Keep your home humidity between 30 percent and 50 percent. In winter a humidifier can add moisture to dry indoor air.
- Remember to blink. Consciously blinking repeatedly helps spread your own tears more evenly.

## 2. Take an inventory of the medicines you take

Some medications, even those that you buy without a prescription, can make your eyes feel dryer. Culprits include antihistamines, nasal decongestants, tranquilizers, and anti-depressant drugs. People with dry eye should let their health care providers know all the medications they are taking, since some of them may intensify dry eye symptoms.

## 3. Don't forget to blink.

Americans are spending more and more time in front of their computer screens, staring intently into the monitor. With so much information so readily available, we sometimes simply can't tare away from it all. Don't become blindly absorbed. Take time to blink. Most people blink about once every five seconds.

## 4. Pay attention to your diet.

It's important not only to keep your eyes lubricated, but your body as well. Certain foods and drinks dehydrate your body-and your eyes. Chocolate, colas, coffee and tea all contain caffeine, which robs your body of moisture. To keep fluids flowing, drink plenty of water (6 glasses daily if possible).

## 5. Practice good eye care habits.

Practicing good eye care habits helps not only with dry eye, but your overall eye health. Some things to do: wear sunglasses with maximum ultraviolet protection (block 99-100 percent of UV-A and UV-B); eat a low-fat diet that includes at least five fruits and vegetables; wear proper eye

safety equipment when doing eye hazardous activities at work and home or when participating in eye hazardous sports.

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- ♦ *Educating woman about their health*
- ♦ *Encouraging woman to act against disease*

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RESOURCES

National Women's Health Resource Center  
<http://www.healthywomen.org>

American Academy of Ophthalmology  
<http://www.aao.org>

Dry Eye.com  
<http://www.dryeye.com>

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